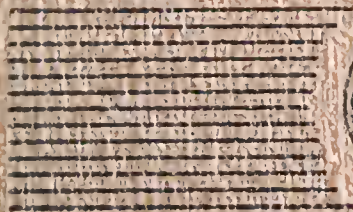


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# MODERN KITCHENS FOR HOMEMAKING INSTRUCTION







# Modern Kitchens for Homemaking Instruction

[ A booklet describing the arrangement  
and equipment, convenient for the  
teaching of foods work in Home  
Economics. Gas equipment is featured. ]



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by

AMERICAN GAS ASSOCIATION

COMMERCIAL SECTION

*Home Service Committee*

420 Lexington Avenue, New York, N. Y.

Price, 15 cents

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## TABLE OF CONTENTS

### CHAPTER I

	PAGE
THE ARRANGEMENT OF EQUIPMENT IN TEACHING FOODS IN HOME- MAKING CLASSES .....	5
The unit kitchen; the hollow-square; the classroom type.	

### CHAPTER II

SELECTION OF GAS EQUIPMENT SUITABLE FOR THE TEACHING OF HOME ECONOMICS .....	13
---	----

### CHAPTER III

SELECTION OF OTHER FUNDAMENTAL EQUIPMENT.....	16
---	----

### CHAPTER IV

SUGGESTED INSTRUCTION TO STUDENTS ON THE USE OF GAS EQUIP- MENT .....	22
--	----

## FOREWORD

THE necessity of providing the best equipment and most efficient working arrangements in the home economics class rooms of our schools is obvious, for it is here that the standard for future homes and the work patterns of future homemakers are developed. However, the problems of planning and equipping these class rooms have increased during the last few years since the principles of kitchen planning have been carefully studied and a wider range of kitchen equipment is available. In the past, before the importance of good kitchen planning was known or automatic equipment was available, the simplest arrangements were considered satisfactory. Today we are fully aware of the wonderful possibilities in kitchens and consequently the planning and selection of equipment must be undertaken with greater care and study.

We have had many requests for help in this work of which the following is typical—from a letter sent to American Gas Association from a gas company manager:

"In the local high school, the Domestic Science Department is considering a proposition to modernize their equipment. At present their set-up is as per the enclosed sketch,

with figures 1 to 10 being Blank Company equipment consisting of domestic science two-pupil tables together with two one-burner plates and individual ovens.

"The wall to wall dimensions of the room are 30' x 22'.

"We are endeavoring to decide on a layout that will lend itself to future additions in case it is not possible to make a complete renovation at one time. However, there are certain limiting factors to a unit type kitchen. Among them is the fact that only the west and north walls are available for sinks because of the expense involved in tearing up the cement floor and installing drain connections. Then, too, the instructor rather hesitates at having all the plates removed, admitting, however, that table top ranges would be more satisfactory. She also feels reluctant to give up the idea of having one central space free for chairs for class room use.

"Considering all these things plus the fact that suitable accommodations are desired for 24 pupils, would you suggest a lay-out? A diagram or two would be especially satisfactory.

"Sincerely yours."

We hope this textbook will constitute a working guide for those planning new Home Economics class rooms or bringing existing ones "up-to-date" with modern gas equipment.

## Chapter I

### ARRANGEMENT OF EQUIPMENT IN TEACHING FOODS IN HOMEMAKING CLASSES

Since the ideal of Home Economics training is to approximate home conditions, unit kitchens seem to provide the most desirable type of plan. The increased popularity of the unit kitchen during recent years is probably caused by changing methods of teaching and a certain standardization of kitchen size, shape and equipment due to the widespread home kitchen-planning activity.

However, certain limitations of the ideal conditions are frequently imposed by avail-

able space, budgets and special requirements of the Home Economics program. In these cases some adaptations of the hollow-square and class room type of laboratory frequently prove more satisfactory. The "hollow square" is a school term used in Home Economics work to describe the older type arrangement where small gas plates were placed on tables or desk units, which were arranged in a square with tables on three sides of the square and a demonstration table at the open end. The



Figure 1. Unit kitchens in an unusual room plan. Sink tops with base cabinets below are used with kitchen tables to meet the particular requirements

smaller pieces of equipment and utensils used in foods classes were kept inside the table drawers and cupboards. Portable ovens were placed over the gas burners, these ovens being stored in a group in some corner of the room, or in an adjoining supply room. Frequently a "bank" of ovens with regulators, placed along one inside wall of the room, were used where accurate baking was necessary. The supply table was on the inside of the square, and this arrangement caused a great deal of walking by students to get supplies, and by instructors watching student operations at the individual desks and at the large ovens.

The class room type of laboratory kitchen

was set up when space perhaps did not permit a hollow-square arrangement. In this plan, desk units were arranged in rows with students working on one side, and passage space so provided to give an opportunity for students to secure supplies at the side of the room.

#### THE UNIT KITCHEN

Photographs Nos. 1, 2, 3 and 4 illustrate what is meant by the school term "unit kitchens."

##### *Grouping of Units*

The size and shape of the classroom will, of course, determine the number and location of the unit kitchens. Generally the units



Figure 2. Unit kitchens with equipment back-to-back. Splash backs eliminate the low partitions. The use of console type ranges (with raised ovens) does not interfere with the view of the kitchens because the ovens are next to the wall. Note the towel rods at the ends of base cabinets under the sink-tops





Figure 3. An interesting unit providing two sink-tops and one gas range. Note that with the sink tops, the space each side of the sink basin is conveniently used for food preparation

are installed in a row along the window wall leaving the space along the corridor wall for blackboard, instructor's desk, refrigerator, supply cabinets, lockers and other general equipment. The practical minimum size for a unit kitchen to serve 4 pupils is 8'-0" square and the best grouping of units can be determined by studying the room floor plan in relation to the unit size.

#### *The Plan*

It is impossible to determine the best plan for the individual unit kitchens before considering and deciding upon the types of cabinets, sinks and work tops which will be used because this equipment controls the possible arrangements. There are today, two different ways of setting up unit kitchens.

1. A grouping of individual pieces of equipment to provide the different facilities as

portable cabinet base  
kitchen table  
sink  
range

These separate pieces of equipment are simply set next to each other as in photographs Nos. 5 and 6.

2. A truly modern kitchen unit with the different pieces of equipment planned and installed together to provide the continuous integrated kitchen as in photographs Nos. 7, 8 and 9.

The choice between the group kitchen or the integrated kitchen is usually determined by several factors. The cost of an integrated kitchen unit is generally higher but the improved appearance and greater durability, due to the permanent installation, may condition the cost factor.

A *group kitchen unit* permits greater flexibility in the use of the Home Economics



Figure 4. Unit kitchens with supply cabinets at the end. Note stainless metal work tops and cabinet type ranges

Classroom as the separate pieces of equipment may be moved to provide open classroom space or to make unit kitchens of different sizes and types for experimental purposes. Present equipment can frequently be

adjusted and used again in unit kitchens of the group type.

Because the first principle of the unit kitchen is to approximate home working conditions, the *integrated kitchen unit* seems



Figure 5. Unit kitchens with portable school kitchen cabinets and kitchen tables. Low partitions are used here though the equipment is not back-to-back. This is an example of the group type of kitchen unit though the partitions prohibit a flexibility in using the space



most desirable since the trend in home kitchen planning is definitely toward continuous work surfaces and storage spaces with the range, sink and refrigerator built right into the cabinet installation.

When the question of group or integrated kitchen units has been decided the best location in the unit plan for the range and sink must be considered. For economy it is good

continuous sink tops along both walls with a sink basin and two base cabinets provided for each unit kitchen.

The unit kitchen, with the sink on one side and range on the other back-to-back with the same appliances in the adjoining units, will be a simple two wall kitchen and can be carried out as a *group unit* or an *integrated kitchen unit*. If these two walls are joined at



Figure 6. Unit kitchens of the group type with portable school kitchen cabinets and tables. Sinks and ranges back-to-back against low partitions. An efficient plan using two rows of unit kitchens

practice to place the range along one side wall and the sink along the other side wall of each unit so that they may be back-to-back with the same appliances in the kitchen units on either side. Thus one set of plumbing lines will serve two sinks and one gas supply will service two ranges and the plans of the unit kitchens will be identical but reversed. See drawing No. A. An interesting variation of this is shown in photograph No. 7 where the ranges are back to back but there are

the closed end to form the popular and practical U-shaped kitchen, standard built-in equipment must be used because the work tops and base cabinets turn the corners in a continuous installation. As shown here the work top along the bottom end of the U may be open underneath so that students may sit on stools here for writing and eating. The work shelves at the ends of the kitchen units supplement this space so that there is ample room for four girls in each unit.

Since it is essential that the instructor be able to see the group in each kitchen unit, high cabinets should be omitted or kept next to the closed end of the kitchen.

In developing the plans for unit kitchens the following details should be considered:

1. Low partitions approximately 48" high between the unit kitchens.
  - a. Makes the unit seem more comparable to home kitchens.
  - b. Provides a wall space for the plumbing and gas lines and consequently gives the classroom a neater appearance.
  - c. Eliminates flexibility in the use of the room.
2. Individual meters for gas ranges. (See photographs Nos. 10a and 10b.)
  - a. For accurate work in cost studies.
  - b. May be installed on low partition or on separate meter boards beside the range.
3. Towel rods installed at open end of base cabinets, on end wall or under the sink basin.
4. Garbage containers of the foot pedal type cannot be operated conveniently in the enclosed section under a cabinet sink and other space should be provided for them.
5. Possibilities of using different colors for each unit to strengthen the feeling of individual kitchens.
  - a. Pastel shades of green, yellow, blue and peach would blend to create a pleasant cheerful classroom.

#### THE HOLLOW-SQUARE KITCHEN

Photographs Nos. 11, 12a, 12b, 12c, and 13 illustrate types of the hollow-square arrangement.

Where space and use requirements or the necessity of using present equipment make



Figure 7. In these unit kitchens the sink-tops of tile are continuous with one sink basin and two base cabinets provided for each unit. The gas ranges set back-to-back make an efficient arrangement in each unit. Note the useful and decorative shelves above the back-splash of the sinks





Figure 8. These unit kitchens with sinks and gas ranges back-to-back illustrate the possibilities of integrated kitchen units

the installation of unit kitchens impossible some adaptation of the hollow-square laboratory with unit desks similar to the regulation physics or chemistry laboratory may provide a satisfactory arrangement.

1. The hollow-square may be turned inside out with the desk equipment located against the side walls and the pupils working along the inside rather than the outside of the hollow-square. New gas ranges may then be located in the center of the square for convenient use.
  - a. One unit kitchen may be installed in the center of the square or at one end of the room for the use of different pupil groups in rotation.
2. New gas table-top units to replace old single gas plates.
3. New work top material installed on present desk equipment.
4. The opening of the hollow-square may be changed to provide a better relationship with the supply-table, refrigerator, instructor's desk and entrance doors.



5. Present sink equipment may be relocated to provide more convenient arrangements.

#### THE CLASSROOM TYPE OF LABORATORY

Photographs Nos. 14 and 15 illustrate what is meant by the "classroom type."

Because of special requirements this type of classroom may be most desirable and the efficiency and appearance of the room may be improved by the installation of new equipment, gas ranges, sinks and individual desk tables as shown in photographs. The possibilities for improving an old classroom simply by the addition of modern gas table-top units is shown in photograph No. 16.

Drawn

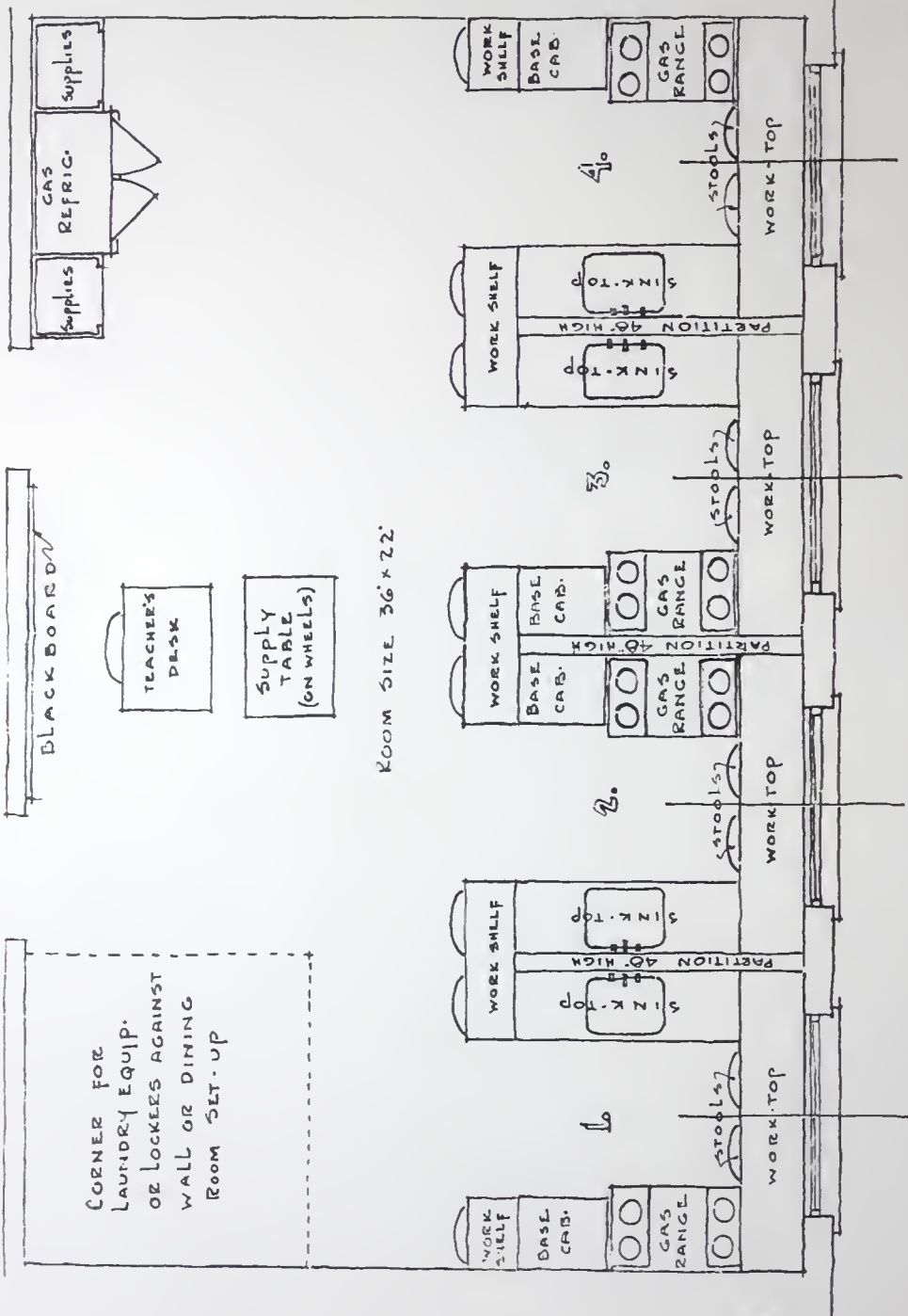
BLACKBOARD

CORNER FOR  
LAUNDRY EQUIP.  
OR LOCKERS AGAINST  
WALL OR DINING  
ROOM SET-UP

TEACHER'S  
DESK

SUPPLY  
TABLE  
(ON WHEELS)

ROOM SIZE 36' x 22'



PLAN FOR UNIT KITCHENS  
V.H.



## Chapter II

### SELECTION OF GAS EQUIPMENT SUITABLE FOR THE TEACHING OF HOME ECONOMICS

*What features in a range are important in the Home Economics Classroom?*

1. Speed of operation—valuable of course, in any cooking operation but particularly important in the classroom where the time allotted to each class is definitely limited. A range must have speed so that each class can complete the lesson in a short laboratory period.
2. Fully insulated ranges are necessary to keep laboratories cool. An important point where ranges are in constant use, period after period.
3. Oven heat control—absolutely necessary to assure uniform baking results on good products carefully mixed and manipulated.
4. Simplicity of operation—simple controls and operating principles require no complicated explanations and very little service. One set of instructions applies to all modern ranges.
5. Range operated by uninterrupted and dependable service.
6. Low initial cost of appliance and simple installation requirements.

#### ALL OF THE ABOVE FEATURES ARE PROVIDED BY MODERN GAS RANGES

The standard practice is to install one four burner stove for each group of four pupils. The selection of the gas range and all other gas equipment should be made from those appliances which have been tested and approved by the Testing Laboratory of the American Gas Association. These appliances bear the American Gas Association Seal of Approval which assures the customer of the safety, durability and operating efficiency of the appliance. Apply to the American Gas Association for a list of these approved ap-

pliances. The selection of the range for each particular kitchen will be determined by the available space, cooking requirements, budget, and personal preference of the family or group and also by the models featured by the local gas company or reliable dealer in gas appliances.

Prices of gas ranges vary with the design, insulation, automatic controls and construction of the range.

1. The Cabinet or Console type range.
  - a. Approximately 42" long and 27" deep.
  - b. Oven and broiler approximately 16" wide and cooking top with four burners.
  - c. Some models provide separate oven and broiler.
  - d. Adequate for average family of five.
2. The "Table Top" type range.
  - a. Approximately 42" long and 27" deep.
  - b. Oven and broiler approximately 16" wide placed below cooking top.
  - c. Convenient working surface at one side of cooking top.
    1. Some models have a divided cooking top with two burners at each side and working surface in the center.
  - d. Some models provide separate oven and broiler and two additional top burners.
  - e. Adequate for average family of five.
3. Kitchenette or cooker type range.
  - a. Approximately 20" wide and 24" deep.
  - b. Oven and broiler approximately 14" wide.
    1. Placed below cooking top.
    2. Placed above cooking top.
  - c. Adequate for cooking needs of two or three people.  
Most range models include a storage compartment for pans and lids.

## 4. Desk Top Stove.

- a. A two-burner stove placed on existing desk units for individual use when space or other restrictions do not allow home-type ranges.
- b. Photograph No. 13 shows, on the right side of the room, modern table-top units placed on the work-tops. Photograph No. 16 shows a new range set into the desk work-top.
- c. With ovens not provided, baking must be done elsewhere.

## 5. Features to be considered in selection of gas range.

- a. A.G.A. Seal of Approval.
- b. Ease of operation for the preferred use of customer.

- c. Oven heat control.
- d. Automatic top lighter.
- e. Insulation.
- f. Smokeless broiler.
- g. Combination simmer and high-speed burner.
- h. Porcelain enamel or chromium lining for oven and broiler.
- i. Vitreous enamel finish.
- j. Flue heat deflector when range is not to be flue-connected.
- k. Time control.
- l. Warming closet.
- m. Utility drawer.

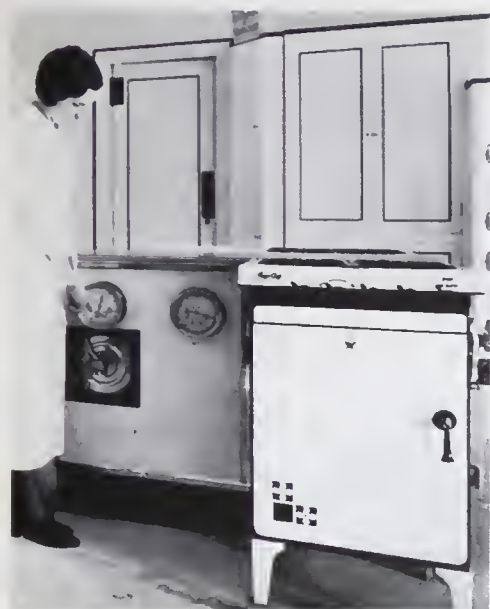
In selecting the color for range and refrigerator, it is well to remember that the kitchen color scheme may be changed fre-



Figure 9. Double row of unit kitchens having two sink tops and one gas range per unit. Six pupils might be accommodated in these larger units when necessary



quently and easily if the permanent equipment is finished in white or ivory.



*Gas Refrigerators*—(See Photograph No. 17a)

Gas refrigerators offer permanently silent operation—most valuable in the classroom. They also provide dependable operation with minimum service requirements because there are no moving parts in the refrigerating mechanism.

*Gas Water Heaters*

Gas Water Heaters in home economics kitchens are desirable if there is not an adequate hot water supply in the building. In photograph No. 17b is seen the table-top model of gas water heater which fits perfectly into a modern kitchen. Another illustration of a water heater in a kitchen is shown in photograph No. 18.



Figure 10. This room plan for unit kitchens provides unusual flexibility and allows an unobstructed view of the entire room. The individual gas meters provide for accurate research and cost study

## Chapter III

### SELECTION OF OTHER FUNDAMENTAL EQUIPMENT

Other fundamental equipment in kitchens planned for Home Economics instruction includes sinks, work-tops, unit desk and cabinets. Since it is impossible to provide the correct height of working surface for each individual pupil it is recommended that sinks, base cabinets or unit desks be installed at the standard 36" height, and movable platforms be provided on which short pupils may stand to work at this level. The 36" height is generally accepted for the home

kitchen and kitchen equipment is standardized at this height.

#### WORK-TOPS

The following table is adapted from the text "Space and Equipment for Homemaking Instruction," published by the U. S. Dept. of the Interior, Office of Education, Division for Vocational Education, Washington, D. C. (Cost—40¢.)

RELATIVE MERITS OF DIFFERENT MATERIAL  
USED FOR WORKING SURFACES

<i>Materials</i>	<i>Advantages</i>	<i>Disadvantages</i>
Wood: Maple, pine, birch	Comparatively cheap. Noiseless, attractive. Easily cleaned if properly finished.	Unless thoroughly seasoned, warps with heat and dampness; needs frequent refinishing.
Pressed wood	Approximately same price as wood above. Excellent cutting and working surface. Quiet and comparatively resilient, will not warp or crack.	Must be bound on edge with strip of self material or metal. Should be glued to 5 ply wood sub base. Limited color range.
Porcelain enamel	Attractive. Easily cleaned. Inexpensive. Does not crack or warp with heat. Easily replaced, can be put on locally made desks. Moisture proof. Nonabsorbent to fat.	Cracks if struck a hard blow, or if food chopper is screwed to table top. Noisy unless rubber mat is used over surface. Produces glare.
Linoleum, glued to wood and waxed. (Some States recommend both varnish and wax.)	Reasonable in price. Attractive in plain colors. Durable if properly bound on edge with metal or wooden strip. Easily cleaned. Least noisy. Resilient.	Buckles if not put on well. Blisters or cracks from overheating. Stripping on edge may leave cracks which are difficult to clean or may allow water to enter.
Metal alloys	Easily cleaned. Durable. Resist heat. Not affected by acids or alkalis. Moisture proof. Nonabsorbent to fat.	Expensive. Spots if water dries on it. (These spots wipe off but look untidy.) May show finger prints and scratch easily.
Synthetic composition materials	Attractive appearance not affected by heat or acid. Will not crack or chip. Dull finish provides good cutting surface.	Expensive and difficult to obtain because of limited distribution.



Figure 12. A college laboratory designed as units with modifications for the special requirements. Note the special shelf and holders for cookbooks, texts and charts. Three views are shown





Figure 11. Hollow-square with new gas ranges set back-to-back inside the square

Work-tops installed along a wall or low partition as in the unit kitchens are generally equipped with a back splash  $1\frac{1}{2}$ " high to cover the joint at the wall. In some cases it is desirable to use the work top material for an 8" high back splash to protect the wall surface.

#### SINKS

Generally one sink is provided for each working group of four pupils but if budget or space requirements make this impossible, one sink may be located for the use of two adjacent groups in the hollow square or class-

room laboratory. Each unit kitchen must be equipped with its own sink.

There are three types of sinks which are most widely used today.

A. *Sink-tops*—A comparatively recent development in sink equipment.

1. Actually a flat rim sink basin combined with a work-top.
2. Permits the use of continuous work surfaces of the same material throughout the kitchen and provides work table space directly adjacent to the sink basin.
3. Bottom and sides of sink-top are straight and square so it can be in-



Figure 13. The hollow-square laboratory with new gas ranges set inside the square and new gas table-top units on the work tops at the right side

stalled on top of and next to cabinets. Space each side of sink basin has no fluting and just enough pitch to drain toward sink. Raised strip along the front edge prevents water dripping over onto the floor.

4. Available in stock sizes from 5' to 9' with back-splashes either 8" or 11½" high and also made-to-measure for special conditions.
5. Materials include stainless steel alloys, pressed wood, linoleum, porcelain enamelled steel and composition materials.
6. Inexpensive sink-top may be made by installing standard flat rim sink basins in home-made wood or linoleum covered work-top. Care must be taken to seal the joint around the sink rim to prevent seepage and warping.
7. All space below the sink-tops may be used for base storage cabinets except that directly below the sink basin which may be enclosed with a sink front for better appearance.

#### *B. Cabinet-Sinks*

1. A separate sink made from the familiar sink material, porcelain enamelled cast iron designed to be installed with cabinets below.
2. Available with double drainboards in 5, 6 and 7-foot lengths with grooved and pitched drainboards and the standard 8" high back-splash.
3. Space below drainboards used for base storage cabinets and a sink front may enclose the space below the sink basin.

#### *C. Apron Type Sinks*

1. Separate sinks which must be free standing because of the rounded corners and rolled rim. Available in porcelain enamelled finish on either sheet steel or cast iron.
2. Models have single or double drainboards in a wide range of sizes.
3. Space below these sinks cannot be conveniently enclosed or used for storage because of the round corners on the 8" deep apron.



Figure 14. A laboratory class room with new gas ranges porcelain enamelled work tops and sinks in an interesting installation

4. Combination sink and laundry tub with removable drainboard may be useful in Home Economics classroom.

#### CABINETS

##### *Unit Kitchens*

As discussed above in the section on planning unit kitchens, the type of cabinets used will be governed by the choice between a group kitchen or an integrated kitchen. In the former, portable school kitchen cabinets as offered by representative manufacturers of school equipment are generally used in conjunction with regular kitchen work tables. In the integrated kitchen, standard unit kitchen cabinet equipment is installed as it would be in the actual home. In the integrated kitchen the increased amount of work-top space due to the continuous work-top make the kitchen table unnecessary.



Figure 16. A laboratory class room desk with new gas table top units. The double desk units have work tops of wood, well constructed and finished

##### *Hollow Square and Classroom Laboratories*

These rooms are equipped with unit desks as supplied by school equipment manufacturers. Unit desks can be built locally to meet unusual room or teaching requirements.



Figure 17a. These completely enclosed units of the integrated kitchen type are actual duplicates of home kitchens. Note the continuous sink top of stainless steel, planning desk and modern cabinet equipment





Figure 15. A laboratory class room with new gas ranges and apron sinks. The double desk units have stainless metal tops



Figure 17b. In this kitchen, a table top model of a gas water heater is shown

## Chapter IV

### SUGGESTED INSTRUCTION TO STUDENTS ON THE USE OF GAS EQUIPMENT

In the efficient use of equipment it is advisable to understand the best operation of that equipment. In the preparation of recipes, instruction insists upon correct ingredients, accurate measurements, and careful manipulation. The good final result is equally as dependent on the equipment used for its baking or cooking.

In a school laboratory where modern gas equipment is installed, the students should be instructed on the use of modern features. The oven heat control for instance regulates the flow of gas in the oven, and with the correct temperature setting and the time decided upon, it is not necessary to pay any attention to the products within the oven, and to prevent the loss of heat it is better not to look inside, at least not until a few minutes before the product can be taken out.

After the equipment is installed by the gas company service man it should be operating correctly. The equipment should be level, the thermostat controls accurate, and the gas flame burning with the correct amount of gas and air input. The instructor of the class can ask for additional information from the gas company representative, or the home service director will gladly give the teacher instruction, or to the class itself if desired. In many schools, with the cooperation of the supervisor, home service directors are giving instruction in a class period. Home service directors, because of their Home Economics training, many times with teaching experience,—as well as with their specialized knowledge of equipment, can really be of great assistance in cooperation with the regular faculty. This instruction may be for thirty minutes or more,—more time being

necessary if a food demonstration is given to the class along with the equipment instruction.

#### I. THE MODERN GAS RANGE

- A. *Oven Heat Control.* The purpose of the oven heat control is to regulate automatically the oven flame and so maintain any selected oven temperature.

Directions for using:

1. Set the dial of the oven heat control at the temperature given in the recipe, then turn the oven burner cock "on full." Light the burner if the range is not equipped with automatic oven lighting.
2. To light an oven already hot from previous use, first set the dial at 550° F., then turn the oven burner cock "on full" and light the burner. Immediately turn the dial to the temperature given in the recipe.
3. Within a few minutes, depending on the model and size burner, the oven heat control will have automatically reduced the size of the oven flame, showing that the oven has reached the desired temperature.
4. To test the accuracy of the heat control a reliable and accurate oven thermometer may be used as a check.

- B. *Use of the Oven.* Factors affecting the baking results include the material used in the pans, the size of the pans in relation to the recipe, and their location in the oven. Too

large or too deep a pan will prevent proper browning. There should be at least one inch between each side of the pan and the oven wall. In using one rack, baking should be done near the center of the oven. In using cake pans on both racks, it is advisable not to place the pans directly above each other.

- C. *Top Burners.* An efficient flame is a clean flame, and is well defined and distinct. If there is a very high blue flame, fuel is wasted. With a very small flame the cooking is slow; if the flame burns with a yellow tip, it will blacken utensils and is wasteful of gas. For any of these conditions call the service man of the gas company for free adjustment.

Use of Top Burners.

1. Turn the gas burner cock on full and light the burner if it is not equipped with an automatic lighter.
2. Leave the flame on full for speedy heating, such as rapid boiling.
3. Turn flame to a low speed to maintain boiling temperature, or still lower for simmering.
4. Operation of the burners on each range should be understood, as modern gas burners burn efficiently with a very small amount of gas.

- D. *Care of the Range.* Since enamel is glass be sure the enamel is cool before wiping off with a damp cloth. To prevent dull spots on the enamel do not spill acid liquids on the enamel. If this happens wash away immediately with a damp cloth. In cleaning top burners use a stiff brush. The modern round burners very seldom require cleaning because they are small enough to miss spill-overs, and the ports are placed horizontally. Cast iron burners may be washed in a weak solution of washing soda; if the burners are enam-

elled or aluminum wash with a warm soap and water solution. Do not boil or use a caustic solution.

The Home Economics Instructor can secure full information on the use of the gas range from the home service department of the gas company. This will include recipes, cook books, service manuals and demonstration material. If there is no home service department in your local gas company ask the assistance of the salesman or the sales manager, or write to the Home Service Counselor of the American Gas Association, 420 Lexington Avenue, New York, N. Y.

## II. THE GAS REFRIGERATOR

After the installation there is no service care necessary with the gas refrigerator. In its use all foods except those protected by skins or shells should be covered, with uncooked dairy products nearest the chilling units. Meat should be covered lightly with waxed paper. Remove market paper wrappings from all foods, and place vegetables in containers, preferably a vegetable freshener. The shelves should not be crowded to prevent circulation of air. The placing of foods is relatively unimportant if circulation of air is insured, because there is very little difference in temperature in various sections of the gas refrigerator. Hot foods should be cooled before being placed in the refrigerator.

Here again, the home service department of the gas company may be called upon for instruction on the use of the gas refrigerator, as well as for special recipes, cook books, and demonstrations.

## III. THE GAS WATER HEATER

If the gas water heater is installed as a part of the Home Economics Laboratory, instruction as to its operation and care can be secured from the gas company or dealer selling the appliance. The same situation applies to any other equipment, such as the gas laundry dryer, or any space heating equipment.





Figure 18. In this modified unit kitchen the water heater is installed most satisfactorily. Note the combination sink and tub for laundry work

This booklet has been prepared by the 1937 Home Service Committee of the Commercial Section. The Booklet Committee:

ELIZABETH SWEENEY, *Chairman*  
FRANCES McBEATH  
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© 33

MODERN KITCHENS AND BASEMENTS,—a book available from the American Gas Association (cost \$1.35), offers detailed subject matter on the principles of planning modern kitchens. Full page photographs and architectural plans are included.

For illustrations in the booklet the Committee expresses appreciation for the privilege of using pictures from the following schools:

Lower Merion Junior High School, Ardmore, Pa.  
Cornell University, Ithaca, N. Y.  
Mt. Vernon Junior High School, Los Angeles, Calif.  
Raritan-Bridgewater High School, N. J.  
Dwight Morrow Junior High School, Englewood, N. J.  
Home of the Good Shepherd, Los Angeles, Calif.  
Lawrence High School, Lawrence, N. Y.  
Thomas Starr King, Junior High School, Los Angeles, Calif.  
Norwood High School, Norwood, Ohio.  
Jason Lee Junior High School, Tacoma, Wash.  
Syracuse University, Syracuse, N. Y.  
Defer School, Grosse Point, Mich.  
Northwestern Junior High School, Reading, Pa.  
Spring Public School, Toledo, Ohio.  
Ida M. Fisher High School, Miami Beach, Fla.  
Central High School, Fort Lauderdale, Fla.





